AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Original) A method of inhibiting a viral infection in a mammal, which method comprises administering to a mammal in need thereof an scFv-Fc fusion molecule comprising (a) a single chain-antibody variable region (scFv) fragment and (b) an Fc region of an antibody, wherein the scFv-Fc fusion molecule binds to an epitope of the viral envelope protein that is inaccessible to whole immunoglobulin molecules due to molecular steric hindrance, whereupon the viral infection is inhibited.

2. (Original) The method of claim 1, wherein the epitope is a conserved epitope.

3. (Currently Amended) The method of claim 1 ~~or claim 2~~, wherein the whole immunoglobulin molecule is an IgG molecule.

4. (Currently Amended) The method of ~~any of claims 1-3~~ claim 1, wherein the mammal is a human and the viral infection is a human immunodeficiency virus (HIV) infection.

5. (Currently Amended) The method of ~~any of claims 1-4~~ claim 1, wherein the scFv-Fc fusion molecule is an antibody to HIV envelope glycoprotein.

6. (Currently Amended) The method of ~~claims 1-5~~ claim 1, wherein binding of the scFv-Fc fusion molecule is enhanced by the presence of CD4 and an HIV co-receptor.

7. (Original) The method of claim 6, wherein the co-receptor is CXCR4.

8. (Original) The method of claim 6, wherein the co-receptor is CCR5.

9. (Currently Amended) The method of ~~claims 1-8~~ claim 1, wherein the scFv-Fc fusion molecule recognizes one or more strains of HIV.

10. (Currently Amended) The method of ~~any of claim 1-9~~ claim 1, wherein the scFv-Fc fusion molecule can bind more than one clade of HIV.

11. (Currently Amended) The method of ~~any of claims 1-10~~ claim 1, wherein the scFv fragment comprises the amino acid sequence of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, or a variant of any of the foregoing, wherein the variant retains the ability to bind to the same epitope.

12. (Currently Amended) The method of ~~any of claims 1-11~~ claim 1, wherein the scFv-Fc fusion molecule further comprises a flexible linker.

13. (Original) The method of claim 12, wherein the flexible linker comprises the amino acid sequence of SEQ ID NO:3 or SEQ ID NO:4.

14. (Currently Amended) The method of ~~any of claims 1-13~~ claim 1, wherein the Fc region comprises the amino acid sequence of SEQ ID NO:5.

15. (Currently Amended) The method of ~~claim 1-14~~ claim 1, wherein the fusion molecule comprises the amino acid sequence of SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, or a variant of any of the foregoing, wherein the variant retains the ability to bind to the same epitope.

16 (Original) A method of inhibiting a viral infection in a mammal, which method comprises administering to a mammal in need thereof a nucleic acid molecule, optionally in the form of a vector, encoding an scFv-Fc fusion molecule comprising (a) an scFv fragment and (b) an Fc region of an antibody, wherein the scFv-Fc fusion molecule binds to an epitope of a viral envelope protein that is inaccessible to whole immunoglobulin molecules due to molecular steric hindrance, wherein the nucleic acid sequence or vector is optionally contained within a host cell, whereupon the viral infection is inhibited.

17. (Original) The method of claim 16, wherein the epitope is a conserved epitope.

18. (Currently Amended) The method of claim 16 ~~or 17~~, wherein the whole immunoglobulin molecule is an IgG molecule.

19. (Currently Amended) The method of ~~any of claims 16-18~~ claim 16, wherein the mammal is a human and the viral infection is an HIV infection.

20. (Currently Amended) The method of ~~any of claims 16-19~~ claim 16, wherein the scFv-Fc fusion molecule is an antibody to HIV envelope glycoprotein.

21. (Currently Amended) The method of ~~any of claims 16-20~~ claim 16, wherein binding of the scFv-Fc fusion molecule to the viral epitope is enhanced by the presence of CD4 and an HIV co-receptor.

22. (Original) The method of claim 21, wherein the co-receptor is CXCR4.

23. (Original) The method of claim 21, wherein the co-receptor is CCR5.

24. (Currently Amended) The method of ~~any of claims 16-23~~ claim 16, wherein the scFv-Fc fusion molecule recognizes one or more strains of HIV.

25. (Currently Amended) The method of ~~any of claims 16-24~~ claim 16, wherein the scFv-Fc fusion molecule can bind more than one clade of HIV.

26. (Currently Amended) The method of ~~any of claims 16-25~~ claim 16, wherein the scFv fragment comprises the amino acid sequence of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, or a variant of any of the foregoing, wherein the variant retains the ability to bind to the same epitope.

27. (Currently Amended) The method of ~~any of claims 16-26~~ claim 16, wherein the scFv-Fc fusion molecule further comprises a flexible linker.

28. (Original) The method of claim 27, wherein the flexible linker comprises the amino acid sequence of SEQ ID NO:3 or SEQ ID NO:4.

29. (Currently Amended) The method of ~~any of claims 16-28~~ claim 16, wherein the Fc region comprises the amino acid sequence of SEQ ID NO:5.

30. (Currently Amended) The method of ~~any of claims 16-29~~ claim 16, wherein the fusion molecule comprises the amino acid sequence of SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, or a variant of any of the foregoing, wherein the variant retains the ability to bind to the same epitope.

31. (Original) An isolated or purified scFv-Fc fusion molecule comprising (a) an scFv fragment and (b) an Fc region of an antibody, wherein the scFv-Fc fusion molecule binds to an epitope of a viral envelope protein that is inaccessible to whole immunoglobulin molecules due to molecular steric hindrance.

32. (Original) The scFv-Fc fusion molecule of claim 31, wherein the epitope is a conserved epitope.

33. (Currently Amended) The scFv-Fc fusion molecule of claim 31 ~~or 32~~, wherein the whole immunoglobulin molecule is an IgG molecule.

34. (Currently Amended) The scFv-Fc fusion molecule of ~~any of claims 31-33~~ claim 31, wherein the epitope is an HIV epitope.

35. (Currently Amended) The scFv-Fc fusion molecule of ~~any of claims 31-34~~ claim 31, wherein the epitope is an epitope from HIV envelope glycoprotein.

36. (Currently Amended) The scFv-Fc fusion molecule of ~~any of claims 31-35~~ claim 31, wherein binding of the scFv-Fc fusion molecule is enhanced by the presence of CD4 and an HIV co-receptor.

37. (Original) The scFv-Fc fusion molecule of claim 36, wherein the co-receptor is CXCR4.

38. (Original) The scFv-Fc fusion molecule of claim 36, wherein the co-receptor is CCR5.

39. (Currently Amended) The scFv-Fc fusion molecule of ~~any of claims 31-38~~ claim 31, wherein the scFv-Fc fusion molecule recognizes one or more strains of HIV.

40. (Currently Amended) The scFv-Fc fusion molecule of ~~any of claims 31-39~~ claim 31, wherein the scFv-Fc fusion molecule can bind more than one clade of HIV.

41. (Currently Amended) The scFv-Fc fusion molecule of ~~any of claims 31-40~~ claim 31, wherein the scFv fragment comprises the amino acid sequence of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, or

a variant of any of the foregoing, wherein the variant retains the ability to bind to the same epitope.

42. (Currently Amended) The scFv-Fc fusion molecule of ~~any of claims 31-41~~ claim 31, wherein the scFv-Fc fusion molecule further comprises a flexible linker.

43. (Currently Amended) The scFv-Fc fusion molecule of ~~any of claims 31-42~~ claim 31, wherein the flexible linker comprises the amino acid sequence of SEQ ID NO:3 or SEQ ID NO:4.

44. (Currently Amended) The scFv-Fc fusion molecule of ~~any of claims 31-43~~ claim 31, wherein the Fc region comprises the amino acid sequence of SEQ ID NO:5.

45. (Currently Amended) The scFv-Fc fusion molecule of ~~any of claims 31-44~~ claim 31, wherein the fusion molecule comprises the amino acid sequence of SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, or a variant of any of the foregoing, wherein the variant retains the ability to bind to the same epitope.

46. (Original) An isolated or purified nucleic acid molecule encoding an scFv-Fc fusion molecule comprising (a) an scFv fragment and (b) an Fc region of an antibody, wherein the scFv-Fc fusion molecule binds to an epitope of a viral envelope protein that is inaccessible to whole immunoglobulin molecules due to molecular steric hindrance, and wherein the nucleic acid molecule is optionally in the form of a vector.

47. (Original) The nucleic acid molecule of claim 46, wherein the epitope is a conserved epitope.

48. (Currently Amended) The nucleic acid molecule of claim 46 ~~or 47~~, wherein the whole immunoglobulin molecule is an IgG molecule.

49. (Currently Amended) The nucleic acid molecule of ~~any of claims 46-48~~ claim 46, wherein the epitope is an HIV epitope.

50. (Currently Amended) The nucleic acid molecule of ~~any of claims 46-49~~ claim 46, wherein the epitope is an epitope from HIV envelope glycoprotein.

51. (Currently Amended) The nucleic acid molecule of ~~any of claims 46-50~~ claim 46, wherein binding of the scFv-Fc fusion molecule is enhanced by the presence of CD4 and an HIV co-receptor.

52. (Original) The nucleic acid molecule of claim 51, wherein the co-receptor is CXCR4.

53. (Original) The nucleic acid molecule of claim 51, wherein the co-receptor is CCR5.

54. (Currently Amended) The nucleic acid molecule of ~~any of claims 46-53~~ claim 46, wherein the scFv-Fc fusion molecule recognizes one or more strains of HIV.

55. (Currently Amended) The nucleic acid molecule of ~~any of claims 46-54~~ claim 46, wherein the scFv-Fc fusion molecule can bind more than one clade of HIV.

56. (Currently Amended) The nucleic acid molecule of ~~any of claims 46-55~~ claim 46, wherein the scFv fragment comprises the amino acid sequence of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, or a variant of any of the foregoing, wherein the variant retains the ability to bind to the same epitope.

57. (Currently Amended) The nucleic acid molecule of ~~any of claims 46-56~~ claim 46, wherein the scFv-Fc fusion molecule further comprises a flexible linker.

58. (Original) The nucleic acid molecule of claim 57, wherein the flexible linker comprises the amino acid sequence of SEQ ID NO:3 or SEQ ID NO:4.

59. (Currently Amended) The nucleic acid molecule of ~~any of claims 46-58~~ claim 46, wherein the Fc region comprises the amino acid sequence of SEQ ID NO:5.

60. (Currently Amended) The nucleic acid molecule of ~~any of claims 46-59~~ claim 46, wherein the fusion molecule comprises the amino acid sequence of SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, or a variant of any of the foregoing, wherein the variant retains the ability to bind to the same epitope.

61. (Original) An isolated or purified host cell comprising a vector or nucleic acid molecule that encodes an scFv-Fc fusion molecule, wherein the scFv-Fc fusion molecule comprises (a) an scFv fragment and (b) an Fc region of an antibody, wherein the scFv-Fc fusion molecule binds to an epitope of a viral envelope protein that is inaccessible to whole immunoglobulin molecules due to molecular steric hindrance.

62. (Original) The host cell of claim 61, wherein the epitope is a conserved epitope.

63. (Currently Amended) The host cell of claim 61 ~~or 62~~, wherein the whole immunoglobulin molecule is an IgG molecule.

64. (Currently Amended) The host cell of any of ~~claims 61-63~~ claim 61, wherein the epitope is an HIV epitope.

65. (Currently Amended) The host cell of ~~any of claims 61-64~~ claim 61, wherein the epitope is an epitope from HIV envelope glycoprotein.

66. (Currently Amended) The host cell of ~~any of claims 61-65~~ claim 61, wherein binding of the scFv-Fc fusion molecule is enhanced by the presence of CD4 and the HIV co-receptor.

67. (Original) The host cell of claim 66, wherein the co-receptor is CXCR4.

68. (Original) The host cell of claim 66, wherein the co-receptor is CCR5.

69. (Currently Amended) The host cell of ~~any of claims 61-68~~ claim 61, wherein the scFv-Fc fusion molecule recognizes one or more strains of HIV.

70. (Currently Amended) The host cell of ~~any of claims 61-69~~ claim 61, wherein the scFv-Fc fusion molecule can bind more than one clade of HIV.

71. (Currently Amended) The host cell of ~~any of claims 61-70~~ claim 61, wherein the scFv fragment comprises the amino acid sequence of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, or a variant of any of the foregoing, wherein the variant retains the ability to bind to the same epitope.

72. (Currently Amended) The host cell of ~~any of claims 61-71~~ claim 61, wherein the scFv-Fc fusion molecule further comprises a flexible linker.

73. (Original) The host cell of claim 72, wherein the flexible linker comprises the amino acid sequence of SEQ ID NO:3 or SEQ ID NO:4.

74. (Currently Amended) The host cell of ~~any of claims 61-73~~ claim 61, wherein the Fc region comprises the amino acid sequence of SEQ ID NO:5.

75. (Currently Amended) The host cell of any of ~~claims 61-74~~ claim 61, wherein the fusion molecule comprises the amino acid sequence of SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, or a variant of any of the foregoing, wherein the variant retains the ability to bind to the same epitope.

76. (Currently Amended) A composition comprising the scFv-Fc fusion molecule of ~~any of claims 31-45~~ claim 31 and a pharmaceutically acceptable carrier.

77. (Original) The composition of claim 76, wherein the composition further comprises an additional active agent.

78. (Original) The composition of claim 77, wherein the additional active agent is selected from the group consisting of azidothymidine (AZT), Cyclosporin A, inactivated virus, interleukin (IL)-2, IL-12, CD40 ligand and IL-12, IL-7, and an interferon.

79. (Currently Amended) A composition comprising the nucleic acid molecule of any of ~~claims 46-60~~ claim 46 and a pharmaceutically acceptable carrier.

80. (Original) The composition of claim 79, wherein the composition further comprises an additional active agent.

81. (Original) The composition of claim 80, wherein the additional active agent is selected from the group consisting of azidothymidine (AZT), Cyclosporin A, inactivated virus, interleukin (IL)-2, IL-12, CD40 ligand and IL-12, IL-7, and an interferon.

82. (Currently Amended) A composition comprising the host cell of ~~any of claims 61-75~~ claim 61 and a pharmaceutically acceptable carrier.

83. (Original) The composition of claim 82, wherein the composition further comprises an additional active agent.

84. (Original) The composition of claim 83, wherein the additional active agent is selected from the group consisting of azidothymidine (AZT), Cyclosporin A, inactivated virus, interleukin (IL)-2, IL-12, CD40 ligand and IL-12, IL-7, and an interferon.